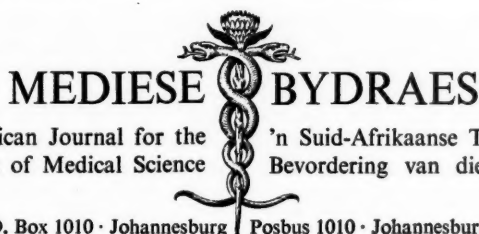


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REDAKSIONEEL · EDITORIAL

DIE UITROEIING VAN TRACHOOM

In 'n belangrike oorsig wat elders in hierdie uitgawe gepubliseer word, beklemtoon dr. J. Graham Scott die verontrustende feit dat trachoom 'n veel meer wydverspreide siekte in stedelike sowel as plattelandse streke, en veral onder die Bantoes, is as wat allerweë beseft word.

Dit is duidelik dat individuele gevalle maklik opgespoor kan word op skool tydens die geneesbare stadium van die infeksie. In sy verslag lê dr. Scott ook klem op die belangrikheid daarvan om alle persone wat in aanraking met die slagoffers van die siekte was, en veral verwante kinders by die huis, te behandel. Met net 'n beskeie mate van organisasie kan so 'n behandelings- en voorkomingsprogram maklik deur volksgesondheidsowerhede ingestel word. Die grootste welslae sal behaal word deur so 'n voorbehoedende program van stapel te stuur met die skoolgaande bevolking as basis van die veldtog.

As die infeksie eenmaal gevestig is, kan dit baie jare lank voortwoeker en uiteindelik misken op blindheid uitloop. Dit verleen veel krag aan die dringende noodsaaklikheid om 'n veldtog vir die opsporing van die slagoffers van stapel te stuur, en vir die latere behandeling van hierdie aansteeklike siekte wat aangemeld moet word.

Die welslae van so 'n veldtog word byna gewaarborg deur die feit dat eenvoudige en doeltreffende maatreëls byderhand is—in die vorm van antibiotiese salwe, aangevul, waar nodig, deur mondelinge sulfa-middels met 'n langdurige effek.

THE ERADICATION OF TRACHOMA

An important survey by Dr. J. Graham Scott, published elsewhere in this issue, emphasizes the disturbing fact that trachoma is much more widespread than is generally appreciated, in urban as well as in rural areas, especially amongst the Bantu.

Individual cases, it is clear, can easily be detected in schools in the curable stage of the infection. Dr. Scott's report also brings out the importance of treating all the case contacts, especially the siblings at home. With modest organization such a programme of treatment and prevention can readily be instituted by public health authorities. The greatest success will be attained by initiating such a preventive programme with the school-going population as the basis for the campaign.

The infection, once established, persists for many years and is liable to result in blindness. This supports very strongly the need for actively prosecuting a campaign of case finding and subsequent treatment of this infectious and notifiable disease.

The success of such a campaign is almost certainly guaranteed by the fact that we have at hand simple and effective measures in the form of antibiotic ointment supplemented, where necessary, by long-acting sulpha drugs by mouth.

A great burden is imposed on the victims of trachoma, especially as there is interference with their schooling; and an equally great economic burden is imposed on the State and various voluntary organizations because pensions and other forms of relief must be pro-

'n Groot las word op die skouers van die slagoffers van trachoom gelê, veral aangesien die siekte inbreuk op hul skoolbywoning maak; en 'n ewe groot ekonomiese las word vir die Staat en verskillende vrywillige organisasies meegebring want pensioene en ander vorms van hulp moet aan die ongelukkige slagoffers verskaf word. Daar kan derhalwe 'n aansienlike besparing vir die gemeenskap wees indien die beskeie koste van 'n preventiewe program bestry word deur 'n veldtog wat op die hierb genoemde grondslag van stapel gestuur word.

Die primêre plig om die voortou te neem met die voorkoming en uitroeiing van trachoom berus by die volksgeondheidsowerhede wat oor die nodige organisasie beskik om uitvoering te gee aan 'n betreklik eenvoudige plan vir die voorkoming van trachoom in sowel stedelike as plattelandse gebiede.

Indien die vereistes wat bes moontlik deur so 'n veldtog gestel kan word, te veel is vir die personeel waaroor die betrokke volksgeondheidsowerhede beskik, kan 'n maklike oplossing gevind word deur 'n geskikte finansiële toelae toe te staan wat die Buro vir die Voorkoming van Blindheid in staat sal stel om sy vrywillige pogings uit te brei tot 'n grootskepe veldtog dwarsdeur die land. Daar behoort derhalwe geen administratiewe moeilikhede te wees wat betref die uitvoering van hierdie noodsaaklike veldtog sonder verdere versuim nie.

vided for the unfortunate victims. There could therefore be a substantial saving to the community if the modest expenditure involved in a preventive programme is met by a campaign conducted along the lines mentioned.

The primary duty to take the initiative in preventing and eradicating trachoma is that of public health authorities, who have the necessary organization to implement a relatively simple plan for the prevention of trachoma in urban as well as rural areas.

If the demands which such a campaign might make are beyond the personnel resources of the public authorities concerned, a ready solution could be provided by a suitable financial grant to permit the Bureau for the Prevention of Blindness to expand its voluntary efforts into a campaign with a sufficient coverage throughout the country. There should therefore be no administrative difficulty about implementing this essential campaign without further delay.

ABSTRACTS

ADRENOCORTICAL HAEMORRHAGES IN THE NEWBORN

Internal haemorrhages in the newborn occur most commonly in the meninges. Visceral haemorrhages are encountered relatively often in the adrenals—in 5 out of 6,000 births, according to Dumont. Since the adrenals play a particularly important part in the endocrine system, the haemorrhages are of great significance. Premature infants are apparently particularly at risk because their blood vessels are not yet as firm as in children born at term. Predisposing factors are toxæmia of pregnancy, birth trauma, anoxia, and infections of the newborn. If the haemorrhage is slight, spontaneous recovery may occur. But where the adrenal bleeding is heavy, the capsule may be ruptured and retroperitoneal and perirenal haematoma may develop.

Diagnosis is usually difficult to establish intra vitam. The symptoms are: tumour, fever, tachypnoea, cyanosis, muscle twitching, and convulsive fits; petechiae are sometimes found on the body. The respiratory disorders may be so predominant as to suggest pneumonia. In the acute cases the clinical picture is dominated by collapse and shock.

For treatment purposes, adrenocortical hormones are indicated: desoxycorticosterone, cortisone; in addition, saline or glucose infusions, possibly noradrenaline. ACTH is contra-indicated except in very fresh cases. The haemorrhage is controlled by means of transfusions, and vitamins K and P. Surgery is sometimes called for.

[Dumont, M. (1959): *Presse Méd. (Fr.)*, **67**, 126].

GLOMERULONEPHRITIS AND SPORT

Following acute glomerulonephritis patients should not be allowed to take part in *sporting activities* until they have definitely made a complete recovery from the disease; this takes much longer than is usually supposed—possibly several years.

[Reubi, E. (1959): *Dtsch. Med. Wschr.*, **84**, 239].

TWINS AND BLOOD DYSCRASIAS

In the case of 4 pairs of enzygotic twins it was found that the one twin had *polycythaemia* and the other *anaemia* (sometimes severe). The reason for this was presumably a unilateral disturbance in the blood return flow into the placenta.

FOETAL BLOOD CELLS IN THE MATERNAL CIRCULATION

Examination of a number of women during the puerperium revealed the presence of *foetal blood cells in the maternal blood* after delivery in 21% of the cases. It is thus not a rare occurrence for foetal blood to pass through the placenta.

[Zipursky, A., Hull, A., White, F. D. and Israel, L. G. (1959): *Lancet*, **1**, 451].

MYOCARDIAL INFARCTION IN FEMALES

The proportion of women affected with myocardial infarction appears to have been rising in recent years.

[Friese, G. and Chao Hai Huang (1959): *Münch. Med. Wschr.*, **101**, 1684].

TRACHOMA IN JOHANNESBURG TOWNSHIPS

J. GRAHAM SCOTT, M.D., D.O.M.S.

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A clinical survey of groups of Bantu children and old age pensioners revealed that between 10% and 40% of urban Africans had a mild form of trachoma. The diagnosis was confirmed by the Trachoma Unit,* which isolated the virus from 7 of 15 cases.

RESULTS OF A SURVEY

Clinically, urban trachoma was of later onset, with milder signs and a lower incidence than are found in the rural districts of the Northern Transvaal, as shown by the following in Table 1.

TABLE 1.

	Percentage Incidence	
	Urban	Rural
Pre-school children	23	60
School children	10	40
Old age pensioners	41	54
Blindness from trachoma ...	1.7	16

Trachoma was rarely seen in children of the urban group under 1 year of age whereas it was commonly seen from 6 months onwards in the rural group.

The most striking difference was in the rarity of entropion in the older urban group. By contrast, near Driekop in the Northern Transvaal, 64 of 114 pensioners had trachoma, 44 had entropion and 19 were blind; whereas at Moroka in Johannesburg, 118 of 279 pensioners had trachoma, 3 had entropion and 2 were blind.

Dr. B. R. Richard and Dr. C. Jabour, of the City Health Department, assisted me in the survey. They subsequently examined 'contacts' and found that the rate of active infection was 4 times greater among the contacts of infected children (52%) than in the family groups of the 'clean' children (13%).

COURSE OF URBAN TRACHOMA

For some years, 120 children at the Elizabethville crèche in Orlando were kept under observation. In March 1959, 28 (23%) had tra-

choma diagnosed clinically without a slit lamp. In March 1960, some had gone on to primary school, leaving 19 of the original cases, of which 16 were unchanged and 3 had healed.

Among the new intake, 11 of 48 had trachoma, bringing the total at the crèche to 27 cases.

As described in a previous paper, 18 were cured with eye ointment and the resistant cases were cured by the addition of a long-acting sulpha drug to the treatment.¹

In March 1961, 19 of the cured cases were still at the crèche and only one had become re-infected. Among the new intake, there was the expected 22% with trachoma. They were treated with ophthalmic ointment.

These observations confirm the generally accepted view that trachoma has a tendency to heal spontaneously, but that it normally runs a course of years. It may be that the cases which persist have repeated superimposed bacterial or viral infections or a massive original infection from which they cannot recover.

VIRUS STUDIES

At an African school in Moroka, scrapings were taken from the upper tarsal conjunctiva of 15 cases diagnosed clinically as trachoma. The scrapings were examined by Dr. J. H. S. Gear.

Typical inclusion bodies were not detected, although granules were noted in the cytoplasm of some cells.

Material was swabbed from the eyes of the same 15 cases and inoculated into embryonated eggs. A virus morphologically similar to trachoma virus was grown from 7 of the 15 cases.

Six months later, 6 of the positive cases were re-examined. Clinically 2 had improved without treatment and 4 were unchanged. Trachoma virus was again grown from 2 of the unchanged cases and, surprisingly, from one of the improved cases, which would no longer have been diagnosed clinically as trachoma.

This raises the question of carriers of the virus who may be infectious without signs or symptoms.

*This research Unit is supported by the Bureau for the Prevention of Blindness at the South African Institute for Medical Research, Johannesburg.

TREATMENT

As the disease in the townships is so mild and causes so little economic blindness, and as one expects trachoma to die out when running water is available in all homes, does it warrant treatment? The answer is, Yes.

Firstly, infection causes chronic conjunctivitis with watering eyes. The latter is often mistaken for a 'cold,' but there has been a marked decrease of such 'colds' following treatment of trachoma at the Elizabethville crèche.

Secondly, it persists for years if untreated and clears up in a few months with simple treatment.

Thirdly, it is infectious, as evidenced by the higher incidence among contacts of active cases. Although of low infectivity, it may be carried by wash girls or nannies to European families, and it is perhaps germane to mention that

more than 20% of private patients show minor scarring of the tarsal conjunctiva.

The children with trachoma do not complain because they are accustomed to recurrent attacks of watering and itching of the eyes, so it is only when treatment has been used in a school that children and teacher notice a difference in the absence of sore eyes.

It is therefore of little value to wait for cases to come for treatment. The cases must be found, and school is an excellent place in which to start the search.

If treatment of infected scholars and their infected contacts were carried out, the incidence would drop to negligible proportions in a short while.

Thanks are due to the technicians of the Trachoma Unit, Mrs. Cuthbertson, Miss Ryan, Miss Gell and Miss Heuberger.

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THE TUBERCULIN TEST

OBSERVATIONS ON NON-EUROPEAN INFANTS UNDER THE AGE OF ONE YEAR

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Certain problems in the diagnosis of tuberculosis in infants prompted us to investigate the matter in our ward. We present figures taken from all the admissions to one ward at the Edendale Non-European Hospital for the period 1 January to 30 September 1960. These admissions consist of non-European infants, mainly Bantu, under one year old. This is a selective series in that all were sick infants requiring hospitalization.

There was a total of 354 admissions during this period. We discounted 174 who died within 48 hours, were under 6 weeks of age, had no tuberculin test or had had BCG inoculations.

There remained 180 cases who had been tuberculin tested with second strength PPD (0.005 mg. or 250 tuberculin units) intradermally. Of these, 30 were diagnosed as having tuberculosis. Four cases died before a tuberculin test could be done; they were found to have tuberculosis at autopsy, making an apparent total of 34 cases of tuberculosis, i.e. at least 9.6% of the total admissions.

Of the 30 cases diagnosed as tuberculosis, 15 had positive tuberculin reactions and 15 negative reactions. One (included in the negative reactions) was negative when diagnosed, but subsequently became positive after 4 months' treatment, a feature which we considered to be of significance. Our main object was to try to evaluate the significance of tuberculin testing in the diagnosis of tuberculosis amongst these infants. Can one safely diagnose tuberculosis in spite of a negative, or doubtful, tuberculin reaction?

From our figures 50% of cases in which we diagnosed tuberculosis had negative reactions. We were concerned about these patients because of the unnecessary time and expense involved in treatment, should unaffected cases be labelled as tuberculous. However, we did not wish to label as unaffected, cases which were, in fact, tuberculous, but had a negative tuberculin reaction.

In reviewing our cases of tuberculosis over this 9-month period, we have concluded that the following points are important in the diag-

nosis of tuberculosis in the absence of a positive tuberculin reaction:

1. Failure to gain weight adequately even after 4-6 weeks of adequate feeding and repeated courses of antibiotics.
2. A haemoglobin level which had not risen, or had dropped in this time.
3. A constant, unexplained pyrexia, unaffected in the main by antibiotics.
4. In certain cases a pellagrinous type of rash which had not responded to adequate diet or to added vitamins (Fig. 1).
5. Radiological evidence of pulmonary infiltration persisting or increasing, despite antibiotic therapy, after 2-3 plates taken at 10-14 day intervals.
6. Response of all the aforementioned factors to anti-tuberculous treatment.

increased to 12 lb. 8 oz. and he remained afebrile. In view of this rapid improvement, the diagnosis of tuberculosis was questioned and the streptomycin and INH discontinued. Within 4-5 days of discontinuing treatment, he became febrile once more. He remained febrile for a further 2 weeks. At this stage his clinical condition had deteriorated, he weighed 12 lb. 9 oz. and his haemoglobin was 8.0 g. %. On 29 September he was put on to streptomycin and INH once more. He soon began to gain weight, but remained febrile for 3 further weeks. A chest X-ray showed slight resolution with appearances favouring a



Our impression is that the ESR is not of great value in this age group and in this type of patient.

Case 1 (Fig. 2). C. M., aged 9 months, was admitted on 19 August 1960 with severe kwashiorkor (not oedematous); weight, 9 lb. 12 oz.; haemoglobin, 8.0 g. %. The chest X-ray showed ill-defined shadowing in the right upper lobe. After one week on penicillin and sulphonamides, his condition remained critical. He weighed 9 lb. 13 oz., his haemoglobin was 8.0 g. % and he had a continuous pyrexia.

Eight days after admission he was put on to streptomycin 0.25 g. *b.d.* and INH 50 mg. *t.d.s.* in spite of a negative PPD. Within a week he became afebrile and his weight increased to 10 lb. 14 oz. After 2 weeks of anti-tuberculous treatment his weight had

primary tuberculous complex. After one month on treatment he was completely afebrile, he weighed 14 lb. 10 oz. and his haemoglobin was 10.1 g. %.

Roughly 2 months after anti-tuberculous treatment was instituted for the second time, he was a normal baby, and his chest X-ray was within normal limits. Another PPD was done, which was still negative.

Case 2 (Fig. 3). S. M., aged 9 months, was admitted on 25 May 1960 with severe kwashiorkor. He weighed 12 lb.; chest X-ray revealed nothing abnormal. For the first month he ran an intermittent low grade pyrexia and was treated with vitamins, penicillin and sulphonamides. The PPD test was negative. Weight after one month was 10 lb. 8 oz. On 21 June he developed measles, and was treated with chloramphenicol, 125 mg. 6-hourly. He

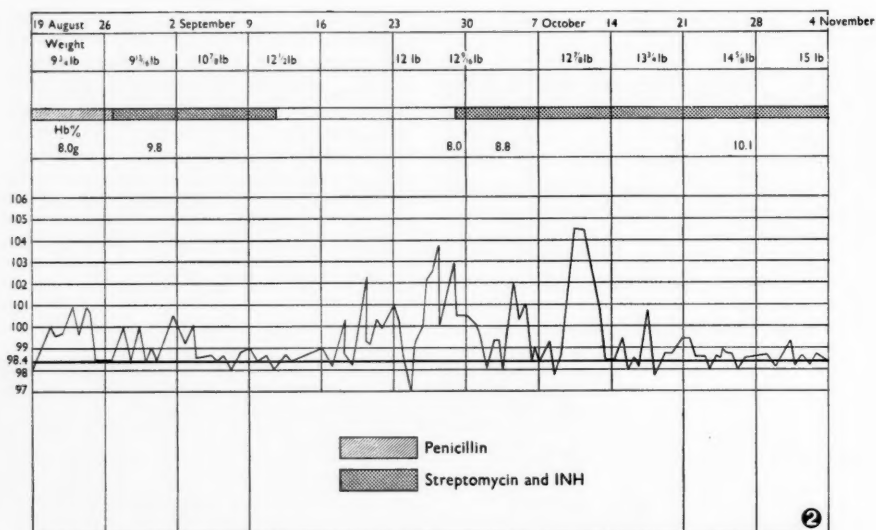


Fig. 2. Christopher, M. admitted on 19 August 1960 with severe kwashiorkor.
3 PPD tests 1 Mantoux test 1 Patch test (negative)

remained pyrexial for 2 weeks, with spikes of temperature up to 105°F, and his weight dropped to 10 lb. 6 oz. At this stage a chest X-ray showed a definite right upper lobe lesion

(not seen on the previous X-ray), an appearance favouring tuberculosis. His haemoglobin was 6.3 g. %. In view of his grave condition, and lack of response to chloramphenicol, he was

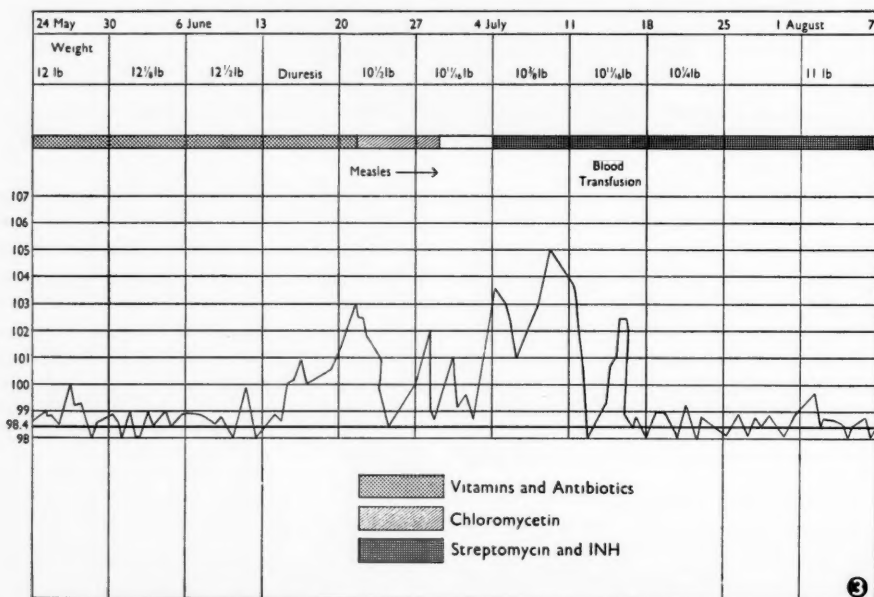


Fig. 3. Steleka, M. admitted on 24 May 1960 with severe kwashiorkor.

put on to streptomycin and INH on 4 July, 2 weeks after developing measles. On 14 July he received a blood transfusion of 80 c.c. of packed cells. By 18 July (14 days after the institution of anti-tuberculous therapy) he was afebrile, but had gained no weight. His X-ray showed an increase in the pneumonic process in the right upper lobe. His general condition improved steadily and he remained afebrile. On 30 September, after nearly 2 months of streptomycin and INH, his X-ray still showed a definite pneumonic lesion of the right upper lobe.

On 9 November a further chest X-ray showed complete resolution. A PPD test was positive. At this stage his haemoglobin was 11.20 g. % and his weight 19 lb. 15 oz.

DISCUSSION

We feel that the diagnosis of tuberculosis in our cases was correct, even in those cases with a negative tuberculin reaction. Why, then, did we have such a high percentage of negative reactions?

Pepys,⁴ who has done a considerable amount of work on the physiology of the tuberculin reaction points out that for a reaction to appear after the introduction of tuberculin certain factors are necessary:

(a) The tuberculin must persist locally for an adequate time.

(b) A sufficient number of antibody-carrying cells should be available.

(c) The tissues should have the capacity to react to inflammatory stimuli resulting from the antigen-antibody reaction⁶—for the fundamental and pathognomonic sign that tuberculosis has occurred is altered allergy.³

Tuberculin is apparently fixed in the tissues. This fixation commences about 10 minutes after introduction, and is completed within about 2 hours. It may remain fixed for some months, as is shown by the well-known reviviscent phenomenon.⁵

The local persistence of tuberculin, which can be modified considerably, depends on the rate of lymphatic absorption which, in turn, is influenced by local vascular responses. Increased lymphatic absorption results in decreased reactions and *vice versa*. In various clinical conditions where an increase in blood flow and a capillary transudation occur, there is a rapid removal of tuberculin and thus a depression of the reaction, e.g. febrile and infectious disorders, hunger cachexia, exposure to bright sunlight and other irritants.

The lymphocytes appear to be the main source of antibody, and it has been noticed

that factors depressing lymphocytes and lymphoid tissue lead to depression of the reaction, e.g. X-irradiation and cortisone (though with cortisone other factors are involved as well).

Local factors preventing lymphocytes from reaching the site of injection will also depress the reaction, e.g. vaso-constriction from whatever cause.

The several factors which depress the tuberculin reaction are enumerated below. Included for the sake of completeness are certain factors which do not apply to our present series.

(a) Severe and advanced forms of tuberculosis.¹ The reaction returns to some extent after treatment.

(b) Critical illness other than tuberculosis.

(c) Various febrile and infectious disorders,² e.g. influenza, whooping cough, measles, scarlet fever, varicella, undulant fever.

(d) Hunger cachexia.

(e) Sarcoidosis.

(f) Menstruation, pregnancy, lactation.

(g) Ultra-violet irradiation.

(h) Depression of the lymphatic system (X-irradiation, cortisone).

(i) Congenital tuberculosis.⁷

In the few cases described, the tuberculin test has invariably been negative, but may become positive after some months.

(j) Intravenous injections of tuberculo-protein.

(k) *Climatic Factors*. Nyboe,¹¹ in a very extensive series conducted in 33 countries, concluded that in temperate and subtropical regions, the test is effective, and when a suitable reaction size is used as the limit between positive and negative, only a few per cent. of the infected will be wrongly classified. However, in tropical, low-lying regions there is a large overlap between definitely positive and definitely negative reactions, and in these regions the efficacy of the test is sharply reduced. For diagnostic purposes its use is of limited value.

(l) *Technique*. Stein and Hetherington,¹³ having studied the tuberculin test for 15 years, concluded that there has been a loss of confidence in the tuberculin test which, in the past at least, was due to:

(a) Lack of uniformity in the alleged dosage and potency of Old Tuberculin and PPD.

(b) Lack of meticulous care in the dilution of these products.

(c) Loss of strength due to deterioration of the materials in dilute solutions.

(d) Chemical particles remain in syringes and weaken dilute tuberculin that may be in contact with glassware for several hours.

They recommend that the same syringe should always be used for each strength of tuberculin, and that syringes should only be cleaned in distilled water or buffer solution.

The general consensus appears to be that the intradermal test is still the most reliable,¹⁰ far out-weighting in its general application the patch test, and being more reliable than the scratch test (von Pirquet) or multiple puncture

(Heaf) test.¹ The patch test has been more or less discarded by experts in this field.

The intradermal test is usually done with 10 TU Old Tuberculin (0.1 ml. of a 1:1,000 solution) or with 0.00002 mg. PPD (0.1 ml. 1st strength PPD). Should the test be negative, it is repeated with 100 TU (0.1 ml. of 1:100 Old Tuberculin) or 0.005 mg. PPD (2nd strength PPD).

The injection must be given intradermally. If the tuberculin is correctly injected, a pale 'orange peel'-like bleb will be raised. The test is read after 48-72 hours, preferably 72 hours.

There is some difference of opinion about what to regard as a positive reaction. The result is read by measuring the diameter of the area of induration. Erythema *per se* is disregarded.

Miller^{9,10} using 10 TU, regards an area of induration of 5 mm. as a positive reaction.

Stein and Hetherington¹³ use the following criteria:

10 mm. or less: 1+ (5 mm. being negative).

11-20 mm.: 2+.

Greater than 20 mm.: 3+.

Necrosis: 4+.

The Medical Research Council,¹⁴ in a survey in the United Kingdom, regarded 10 mm. or more as a positive reaction with 1:1,000 OT.

We have taken 8 mm. as a positive reaction.

The value of using 1:100 OT or 0.005 mg. PPD is doubted by some, in that the reaction may not be truly allergic. However, Johnston *et al.*¹² think that these are true allergic reactions and that reactions due to chemical irritation can be distinguished by the fact that they appear before the 6th hour and disappear by 48 hours.^{8,13}

The factors which appear to affect the reliability of this test in our series are:

1. *The state of nutrition of the patients.* This does not appear to be an absolute inhibiting factor. We subdivided our 30 cases of tuberculosis into those with kwashiorkor and those without; 10 had kwashiorkor and of these 5 had positive tuberculin reactions and 5 were negative. However, in general those with negative reactions were the more severely malnourished. The series is too small to be of statistical value.

2. *Anaemia*, by altering the dynamics of the circulation, may militate against a positive reaction in that an anaemic child may possibly clear the tuberculin more rapidly.

3. *Serious illness*, tuberculosis or otherwise.

4. The apparent difficulty of raising a positive reaction in an infant under 1 year of age.

5. *Febrile and infectious disorders.*

6. The possibility that the PPD used might not have been fully potent. However, we doubt this as

in about 30 cases both a commercial preparation and another preparation of PPD obtained from the King George V Hospital, Durban, were used with identical results.

Scragg¹⁵ has found that results in Africans at King Edward VIII Hospital in Durban are similar to ours, but has had more positive results using Old Tuberculin than when using PPD. We intend testing a further series of cases with this material.

CONCLUSION

It is extremely difficult to obtain positive bacteriological proof of infection at this age. The clinician is very much in the hands of the radiologist in his interpretation of the shadows appearing on the X-ray plate. In many cases, therefore, one is thrown back on the clinical criteria of infection mentioned earlier. From this small series we feel that, although the tuberculin test is an extremely valuable one, in this age group it has definite limitations when negative.

SUMMARY

1. The results in 180 cases of tuberculin testing in African children under 1 year are described.

2. The test is discussed briefly.

3. From this small series it appears that a negative Mantoux test is not conclusive proof of lack of infection.

The authors thank Dr. M. Adnams, Medical Superintendent of the Edendale Non-European Hospital, Pietermaritzburg, for his permission to submit this paper for publication.

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THE NEW AGE

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With the absolute and relative increase of the older people in relation to the other age groups, there has been a very recent upsurge of thought and activity in the study of ageing in the Americas, the United Kingdom and the rest of the Western communities. In South Africa, within the past year, numerous individuals and organizations have erupted with new enthusiasm for work in this field.

The term *Geriatrics*, to denote a branch of medicine devoted to the diagnosis and treatment of diseases in the aged, is at present falling away in certain circles in favour of the broader, more embracing term, *Medical Gerontology*. A Committee of the Gerontological Society of America put forward in 1959 the following definition:

'Gerontology is that branch of knowledge which is concerned with situations and changes inherent in increments of time, with particular reference to post-maturational stages.'

Gerontology as a special branch of science dates back to the early period of this century. Since the late 1930's the advance has been most rapid. In 1939 a group of British scientists formed an International Club for Research on Ageing. The United States followed suit and, in 1945, the Gerontological Society was formed. Similar Societies were started in most European countries.

Gerontology as a pure science has been carried on in the United States and Europe as studies of the anatomy, physiology and biochemistry of ageing cells, longevity in relation to numerous different factors, and learning abilities in animals and man in relation to age. In South Africa the main field of study and research has been as an applied science. Applied gerontology may be divided into 2 main branches:

Medical gerontology embraces the prevention, cure and amelioration of disease, and the preservation of vigor and health of the elderly person.

Social gerontology, however, considers the changes in circumstances, status and adjustment of the individual to the events and processes of ageing. It also includes the changes in the age composition and structure of populations and the influence of the older people on the values, institutions and organization of the Society.

If one considers that the field of gerontology is now established, one must draw distinctions

between the terms *ageing*, *senescence* and *senility*. Old age may be defined, simply, in terms of chronological age. This is one of the most useful items of information about an individual. For some purposes, the older population is often generally defined in terms of persons over 60 years; for other purposes, over 65 years, the choice being made for convenience (such as assessment for retirement, pensions or social surveys); but there are wide individual differences between the physiological age and the chronological age, although they are related.

Through general usage 'ageing' has acquired different meanings. It is therefore incumbent on each author to state and clarify the meaning intended. Donahue,¹ of the University of Michigan, has defined ageing as a continuous process present even during differentiation and maturation.

'The differentiation and maturation of cellular material and its involution and senescence constitute the continuous changing biological substructure of the ageing organism.'

Shock,² of the National Heart Institute, Bethesda, closely agreeing with this viewpoint, says:

'All living matter changes with time in both structure and function, and the changes which follow a general trend constitute ageing.'

His thesis is that ageing is a process which extends over the entire life span and is reflected primarily in a reduction of reserve capacities.

This reduction in reserve capacities and failure of adaptive processes is brought out by Hunt's definition:³

'The term, Ageing Process, as applied to living organisms is the genetically determined, progressive and essentially irreversible diminution with the passage of time of the ability of an organism or of one of its parts to adapt to its environment, manifested as diminution of its capacity to withstand the stresses to which it is subjected and culminating in the death of the organism.'

This also emphasizes the other aspects of varying rates of decline of different parts of the body.

Lansing,⁴ of the University of Pittsburgh, feels that senescence is perhaps a more specific term for the process or processes that one refers to as ageing, when one has in mind the gradual deterioration of the adult organism after reaching maturity. He defines senescence as:

'A process of unfavourable progressive change, usually correlated with the passage of time, becom-

* Honorary Physician to the Witwatersrand Jewish Aged Home and the Aged Homes of the Rand Aid Association.

ing apparent after maturity and terminating invariably in death of the individual.'

The definition of the term *Gerontology* has as its basis this outlook, thereby supporting the view of avoiding the term 'ageing' and employing the more specific term 'senescence.'

It would follow from this that the end product of the process of senescence is the state of being decrepit which is senility.'

The term ageing may be used in specific writings without prior definition if a qualification is used with it, such as Biological, Psychological or Social. Here the meaning implied is that of progressive change occurring after maturity, as expressed by Lansing. *Biological Ageing* includes studies of genetic factors, structural and functional characteristics of cells and tissues, and their influence on

longevity. *Psychological Ageing* refers to the sensory and perceptual capacities, intellect and motor performance, and adaptive capacities of the individual in relation to chronological age. The social behaviour and attitudes to the changing situations as an elder member of the family, community and society, constitutes *Social Ageing*.

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KAPOSI'S SARCOMA

S. V. HUMPHRIES, M.A., M.R.C.S., L.R.C.P.

*Lilongwe African Hospital, Lilongwe,
Nyasaland*

K, an African male aged about 60 years, was admitted with a large, sloughing and extremely foul-smelling tumour of the left lower leg and foot and extensive infiltration with smaller rounded deposits in the skin of the lower leg and thigh (Fig. 1). The glands of the left groin were enlarged, but there was no evidence of metastatic deposits in the lungs or liver.

renaline and 2½ pints of blood were administered by cutting down on veins and tying in 3 cannulae.

A diagnosis of sarcoma was made, and a hindquarter amputation was performed under epidural anaesthesia supplemented by general anaesthesia. The common iliac artery was tied early and there was remarkably little haemo-



The patient's general condition was extremely poor and anaemia was pronounced. It was impossible to introduce a needle into any vein. Intravenous infusion of fluid, norad-

rhage throughout the operation—certainly considerably less than the amount of blood administered—but much exudation of blood-stained serum occurred afterwards from the

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wound. The pulse at the end of the operation was 88 beats per minute and the blood pressure was 100/88 mm. Hg. The blood pressure could not, however, be maintained after the operation, and gradually dropped until the patient died the following day of delayed shock.

The report from the pathologist in Blantyre, Dr. W. M. Buchanan, stated:

'Section shows irregular bundles of spindle cells which in places appear to be invading subcutaneous tissue. There are numerous blood vessels, extravasated red cells and haemosiderin pigment deposits. Lymphocytes and plasma cells are also seen. This is in my opinion a Kaposi's sarcoma.'

I wish to thank Mr. Madoc Jones, of Lilongwe, for taking and processing the photograph.

MEDICO-LEGAL SECTION

EMOTIONAL STORM

REX v. KENNEDY*

(APPELLATE DIVISION)

1951. *September 24, 25; October 5.* GREENBERG, J.A., SCHREINER, J.A., and FAGAN, J.A.

The law presumes every person to be sane, and the *onus* which lies on a person seeking to rebut the presumption is not discharged by proof that his peculiar mental condition, which in itself does not connote an inability to appreciate the nature of his acts or an irresistible impulse to commit the act, is such that the impact of circumstances may produce an emotional storm during which he might be in a condition of mental disorder and therefore legally not responsible for his acts. It is for him to prove the existence of the storm and this means that he must prove the facts, on a balance of probability, on which the experts come to the conclusion that such a storm existed. In certain cases, or in certain respects in any particular case, it may be sufficient if the accused person honestly but mistakenly believes that the facts to which he testifies do exist.

The existence of such an "emotional storm" can be established by proof (1) that the accused has a psychopathic personality, (2) that the external circumstances leading up to the occasion of alleged storm are such as are likely to cause it, (3) that his conduct during the storm and immediately after it, and his account of it are such as to be expected if the condition did supervene.

In considering whether there was such provocation as could reduce a crime from murder to culpable homicide, the accused is not entitled to any special consideration because of his psychopathic personality; the question on this factor of provocation is whether an ordinary person would have been deprived of his power of self-control by the act which caused the killing. On this issue, however, the *onus* is on the Crown to prove intention to kill and if there is a reasonable possibility of the happening of such events as would be sufficient to deprive any ordinary person of his self-control, then, on this requisite, the answer must be in favour of the accused.

Appeal from a conviction in the Witwatersrand Local Division (NESER, J., and assessors), on a charge of murder, leave having been granted by the Court *a quo*. The facts appear from the judgment of GREENBERG, J.A.

G. G. Hoexter, for the appellant (at the request of the Court): The rule that in cases in which the defence is insanity the *onus* is on the accused to satisfy the Court on a preponderance of probabilities that he was insane, refers to a defence of *morbus durabilis* and

not to a defence of irresistible impulse where it has been established (a) that the accused is susceptible to a pathological impulse tantamount to insanity, and (b) that such insanity will be induced by a definite stimulus. Once it is common cause that the accused is a psychopathic personality who may be driven by a certain stimulus to perform acts under the pressure of emotional forces over which he has no control, then, if the existence of that stimulus is in issue, the *onus* is on the Crown to prove beyond reasonable doubt that such stimulus did not exist. *Rex v. Zulch*, 1937 T.P.D. at p. 400 and *Rex v. Westrich*, 1927 C.P.D. 466, do not consider this aspect of the

* Reprinted by permission of the publishers and the Editors of the *South African Law Reports*—Editor.

matter. *Rex v. Smit*, 1950 (4) S.A. at p. 165 lays down that irresistible impulse is a form of insanity but this specific question does not arise here. Some support for the submission *supra* is to be gained from the following authorities, viz. *Matthaeus, de Criminibus* (Prolog. Cap. 2, n. 6), *Moorman, Verhandelng* (Inleiding, 2.16.17), *Menochius, de Praes.* (Lib. 6.45, n. 6).

Douglas Davidson, for the Crown: The Judge *a quo* held correctly that the *onus* was on appellant to prove, on a balance of probabilities, that he was insane at the time of the shooting; see *Rex v. Ndblovu*, 1945 A.D. at pp. 386-7; *Rex v. Kaukakani*, 1947 (2) S.A. at p. 823. The *onus* on appellant involved his proving (i) that he was likely to become temporarily insane in certain circumstances and (ii) that such circumstances obtained as would probably cause in him such temporary insanity at the time of the shooting. It was not sufficient for the appellant, in discharging his *onus* to show that he had a predisposition to act as he did when under stress without proving that the circumstances were such as would cause the irresistible impulse. The duty of the Crown is to prove such material facts, circumstances and acts as would compel the inference of guilt in a sane person; see *State v. Quigley* approved in *Rex v. Kaukakani, supra*, at pp. 822-3. This Court will not lightly disturb the trial Court's findings of fact; see *Rex v. Dhlumayo and Another*, 1948 (2) S.A. 677. The Judge *a quo* correctly set out the principles of law relating to provocation; see *Rex v. Butelezi*, 1925 A.D. at pp. 163, 170; *Rex v. Attwood*, 1946 A.D. 31 at pp. 339-40; *Rex v. Tshabalala*, 1946 A.D. at p. 1062.

Hoexter, in reply.

Cur. adv. vult.

Postea (October 5th).

GREENBERG, J.A.: The appellant was tried in the Witwatersrand Local Division before a Judge and assessors on a charge of murder. He was convicted, and extenuating circumstances having been found, was sentenced to twelve years' imprisonment with hard labour. Leave to appeal was granted in the Court *a quo* and he now appeals on the ground that the verdict should have been that he was guilty of murder but was mentally disordered at the time of the murder; alternatively that, by reason of the provocation he had received, he was guilty only of culpable homicide. I put the two contentions in the order in which they were advanced before us by counsel.

It was common cause and it is manifest from the evidence before us that on the evening of the 8th November, 1950, the date alleged in the indictment, between 10 and 11 in the evening, he killed the deceased, Mary Kennedy, by shooting her with an automatic pistol, and that on the same occasion, he shot at and wounded a young man named Eric Ludwick, aged 18 years. The shooting took place in the kitchen of a small house occupied by the deceased, with her three children, in Moffat Street, Turffontein. The appellant had married the deceased in 1938 and the three children were born of the marriage, but the appellant and the deceased had been living apart since the end of 1949 and were divorced in March, 1950. The custody of the children was apparently awarded to the deceased and the appellant, by judicial decree, was ordered to pay her £15 per month as maintenance for the children. I shall have to refer later to the relations between the appellant and the deceased between the divorce and her death.

The plea of mental disorder was that the appellant was of psychopathic personality and that, he being of this type, the circumstances which had preceded the shooting created in him an emotional impulse which prevented him, immediately before and at the time of the shooting, from knowing the nature and quality of his conduct. It was not disputed by the Crown that if the appellant was a psychopathic personality and was under the impulse mentioned, he would be regarded in law as mentally disordered and entitled to the verdict which he claims, and it was on this basis that the matter was dealt with in the Court below, and in argument before us.

The first question that arises for decision is whether it was correctly held in the Court below that the *onus* lay on the appellant to prove, by a balance of probabilities, not only that he was psychopathic, but also that he was suffering from the impulse and that this involved proof by him of the circumstances which are alleged to have created the impulse. In the medical evidence the condition created by this impulse is described as an "emotional storm".

It was found by the Court below, and it was common cause in the argument before us, that the appellant had a psychopathic personality but it was contended on behalf of the appellant that once he had such a personality which means that he is a person who, because of a stimulus, may perform acts without knowing the nature and quality of his conduct, the *onus* is on the Crown to prove beyond reasonable

doubt that such stimulus did not exist. By way of analogy, counsel contended that if an accused person proves mental disorder of an intermittent type, there is no presumption that the act wherewith he is charged was committed in a lucid interval.

I do not consider it necessary to decide whether this hypothetical case correctly embodies the law as, in my opinion, it is not analogous with the one before us. The abnormality from which the appellant suffers does not in itself amount to mental disorder in law. The definition given by Dr. Cooper, one of the psychiatrists who gave evidence for the defence, can be accepted; he says that a psychopathic personality is

"a type of person in whom there exists an emotional immaturity and instability which manifests itself from an early age an inability to conform to the accepted moral and social standards demanded by the society in which he lives."

Such a person, according to the evidence, may suffer an emotional storm, due to external circumstances, and during the impact of that storm, may be in a condition of mental disorder and therefore legally not responsible for his acts.

The existence of this condition can be established by proof (1) that he is of the type indicated, (2) that the external circumstances leading up to the occasion of the alleged storm are such as are likely to cause it, (3) that his conduct during the storm and immediately after it, and his account of it are such as to be expected if the condition did supervene.

It appears from the evidence and is in fact generally accepted that there is at present no known method by which a medical expert, by examination of a person who has been found to be of psychopathic personality, can ascertain whether at the critical period he was suffering from such an emotional storm. This can only be decided on evidence of the events which are said to have led up to the creation of the storm, of his conduct during the time when he committed the act complained of and of his conduct thereafter, including his own evidence as to his recollection of what happened in the commission of the act and thereafter. Naturally, in regard to the last-mentioned factor, it must be borne in mind that, in an attempt to establish his plea, the person concerned may deliberately give false evidence on matters which are not susceptible of denial by the Crown and the question of his intelligence and possible appreciation of what may favour his plea are matters to be borne in mind. It is relevant at this stage to say that a low mentality is not a necessary ingredient

of psychopathic personality and that the evidence is that the appellant is of more than average intelligence.

Mr. Hoexter, who argued the case very well for the appellant—the argument of Mr. Davidson, counsel for the Crown, calls for the same recognition—drew our attention to passages in Matthaeus, *de Criminibus* (Proleg, Ch. 2.N.6); Moorman, *Inleiding*, 2.17 and Menochius, *de Praesumptionibus*, 6.45 N.6, in support of his contention that, a permanent condition of psychopathic personality having been established by the appellant, the *onus* lay on the Crown to prove that the appellant, at the time the act was committed, was not mentally disordered. I do not think that these authorities were intending to lay down a proposition of this kind and were not dealing with a more general question in a manner which attempted to deal not only with the legal but also with the medical aspect, but in any case it appears to me that the question is to be decided on principles of *onus* of proof which are not in dispute in our law. The law presumes every person to be sane, and the *onus* which lies on a person who seeks to rebut the presumption is not discharged by proof that his peculiar mental condition, which in itself does not connote an inability to appreciate the nature of his acts or an irresistible impulse to commit the act, is such that the impact of circumstances may produce an emotional storm which has the connotation mentioned by me. It is for him to prove the existence of the storm and, in view of the method of proof which is available, this means that he must prove the facts, on a balance of probability, on which the medical experts come to the conclusion that such a storm existed. In certain cases, or in certain respects in any particular case, it may be sufficient if the accused person honestly but mistakenly believes that the facts to which he testifies do exist, but I do not think that this aspect enters largely into this case.

NESER, J., the Judge *a quo*, in giving the reasons of the Court, pointed out that his conclusion as to the *onus*, which substantially is based on the same line of reasoning as I have adopted, was not confirmed by any decision of which he was aware, but, for reasons I have given, I think it is right.

It is therefore necessary to deal, as briefly as possible, with the course of the events that preceded the shooting and those that immediately followed it, and on this part of the case, the *onus* is on the appellant to prove the objective truth of the evidence on which

Drs. Cooper and Geerling came to the conclusion that the appellant was in the mental condition for which he contends, or, where it is a question of subjective truthfulness, that the appellant believed that it was true.

The evidence of the appellant's unhappy and unfortunate childhood and youth, and of his family history, relates mainly, if not entirely, to the question of his psychopathic personality, which is not in dispute, and I need not deal with this evidence. I think it can also be accepted, in favour of the appellant, that his idiosyncrasies of temperament and behaviour, due to this personality, contributed substantially to the state of affairs which resulted in the divorce. His restlessness and inability to settle down to a permanent occupation and his bursts of ill-temper in his home appear to have sprung from this source, which may well also have contributed to the difficulties which the appellant encountered in his attempts to persuade the deceased to a reconciliation and remarriage. It is necessary to refer to these attempts and as these events form a substantial part of the evidence on which the two doctors who gave evidence on his behalf formed the opinion that the appellant was mentally disordered when he committed the act, his truthfulness, objective or subjective, as the case may be in regard to these events, is of cardinal importance. This evidence was to the effect that during a period which I shall limit, in dealing with the matter, to the period between Monday the 30th October, 1950, and the night of the killing, Wednesday the 8th November, the deceased had on several occasions promised to re-marry him, had twice come to him to ask that the arrangements for the re-marriage be proceeded with, had ultimately agreed that it should take place on Thursday, the 9th November, and that on Monday, the 6th November, had arranged with him that he call on her at midnight, Wednesday the 8th, to report on his financial arrangements, in anticipation of the marriage the next day.

At this stage it is necessary to refer to the evidence in regard to the relations of Ludwick and the deceased. Ludwick had first come to the deceased's house to visit de Beer, a nephew of the deceased aged about 18, who lived in the deceased's house. It is clear, however, that the object of Ludwick's later visits to the house was to see the deceased, and a majority of the trial Court came to the conclusion that the relations between them developed into one of sexual intimacy. This conclusion, which was not disputed by Mr. Davidson, does not appear to me to be open to question. It is relevant

to the truthfulness of the appellant's evidence of certain incidents which he said he witnessed between them, the most important of which is that on the fateful Wednesday evening, when he walked into the kitchen, he found them embracing each other, with Ludwick's hand under her dress near or on her private parts. It is also relevant, in so far as this intimacy was known to or suspected by the appellant, as a very material contributory factor in regard to the effect on his mind of the events.

Two other matters also need to be mentioned now. The first, which has a bearing on the attitude of the deceased during the attempts at reconciliation, is that for some months before October, 1950, the appellant had been cohabitating with another woman. He said that he had merely been taking her out before he was summoned by the deceased in May, 1950, for non-payment of the maintenance but after her attitude in June, when the case came into court, he commenced living with the other woman until some time in October, when, in his desire to re-establish his domestic relations with the deceased and his children, negotiations for re-marriage were commenced. The deceased, on his evidence, knew something about this relationship. The second matter is that, according to his evidence, on Sunday, 5th November, after having the previous night cohabited with his wife for the first time since the separation that culminated in the divorce, he returned to her in the afternoon; she had promised during the previous night not to allow Ludwick to visit her again, but on his return he found Ludwick in the house. When he told Ludwick to leave, she told the latter to stop as long as he wished, whereupon the appellant was so affected by what had happened that he swallowed a number of sleeping tablets containing and labelled 'poison'; as a result of this he later collapsed in a coma and found himself at the hospital the next day. There is no reason to reject the appellant's evidence of the taking of the tablets, of the effect they had on him and that the deceased visited him on the evening of Monday the 6th when he returned to his parents' house from the hospital. It is also not so improbable as to warrant rejection that on this occasion, she being moved by a feeling of contrition and pity, her attitude to him was more affectionate and co-operative than it might otherwise have been. The Court *a quo*, while finding that there was some discussion on this occasion of the re-marriage, rejected the defence evidence that it was arranged on that occasion that the appellant should visit

the deceased at midnight on the 8th November and that they were to be married the next day.

I have dealt with these three matters specifically, but do not consider it necessary to do the same with the series of other events testified to by the appellant as having taken place between him and the deceased during the period I have mentioned, viz.: 30th October to 8th November. They were fully dealt with in argument before us and in the reasons given by the trial Court. As narrated by the appellant they painted a picture of a series of frustrations caused by the vacillating and intensely provocative and aggravating behaviour of the deceased in regard to her relations with Ludwick and her intention of re-marrying the appellant. The trial Court, on the appellant's evidence that the deceased was a normal woman of stable character and on a number of improbabilities that it found in the appellant's narrative, came to the conclusion that generally this evidence of his was not to be accepted because it was improbable and said that he was "far from being a reliable witness"; as I have already said, it rejected his evidence of the arrangement made at his parents' house on the 6th November.

In regard to the happenings on the night of the 8th November the trial Court, in giving its reasons for finding extenuating circumstances, said that it was by "no means improbable" that the appellant visited the house of the deceased that night with the intention of shooting her and Ludwick if he found the latter there, but it was not satisfied that he did, in fact, have such an intention. The Court also found, on the question of the appellant's sanity, that his evidence of the position in which he found these two people in the kitchen immediately before the shooting was false and that Ludwick's evidence that they were sitting on chairs some feet apart was to be accepted, although it had said that "it suffices to say that Ludwick was not a candid witness". Ludwick in effect had been found to have perjured himself in his denial of everything but an ordinary and slight acquaintance with the deceased. The measured terms of the description of him by the trial Court may be due to a feeling that his lying in the circumstances was not unnatural. The Court was also not satisfied that the account given by the appellant of the events at the time of the shooting, in so far as they were incorrect in fact, were not due to a dishonest reconstruction by him, instead of being an attempt, genuine though mistaken because of an abnormal condition, to tell truthfully what had been present

to his mind. In effect, the Court refused to accept his evidence that, after he entered the kitchen and saw the deceased and Ludwick, his mind was a blank except that he was aware of the sound of pistol shots.

I shall have to return to the matters I have just been discussing when I deal later with the question whether the correct verdict is murder or culpable homicide, but on the issue I am now considering, it is sufficient to say that this Court would not be entitled to say it was satisfied that the trial Court had erred and should have come to the conclusion, affirmatively, that on a balance of probabilities the appellant's account of the events during the period was substantially true, i.e. that it was true to a sufficient extent to serve as a proper basis for the conclusion arrived at by the doctors who gave evidence for the defence; their conclusion was based on his evidence and if it was not proved that this evidence was true, then, unless the criticism was limited to comparatively minor matters or details, the support for this conclusion disappears and the *onus* resting on the appellant was not discharged. The plea of insanity was therefore rightly rejected.

In considering whether there was such provocation as could reduce the crime from murder to culpable homicide, the appellant is not entitled to any special consideration because of his psychopathic personality; the question on this factor of provocation is whether an ordinary person would have been deprived of his power of self-control by the act which caused the killing. (*Rex v. Atwood*, 1946 A.D. 331.) On this issue, however, the *onus* is on the Crown to prove the intention to kill and if there is a reasonable possibility of the happening of such events as would be sufficient to deprive any ordinary person of his self-control, then, on this requisite, the answer must be in favour of the appellant. I desire to deal with the evidence in regard only to two of the incidents to which I have referred. The first is whether, on Monday the 6th, it was arranged that appellant should visit the deceased at midnight on the 8th and that they should be married on the 9th. The appellant's step-father, Port, testifies that on the 6th the deceased visited his house where the appellant was staying and was closeted in the room where the appellant was in bed and his mother goes further and says that, before leaving, the deceased, from the doorway of the room, called out to the appellant "Don't forget Wednesday night. Come and see me Wednesday". There is nothing adverse to her

evidence in the fact that her husband did not hear this. The appellant gives similar evidence on this point to that of his mother. The trial Court regarded Mrs. Port as an unreliable witness, giving solely as its reasons that she professed to know nothing of the reasons which had led to the divorce, but this, as the reason for disbelief, does not commend itself to me. I do not lose sight of the fact that she was a highly interested witness, but nevertheless, I do not agree that the Court was entitled to find it proved beyond a reasonable doubt that this had not taken place. And if in fact the appellant on his visit before 11 p.m. on the 8th did find deceased and Ludwick in a compromising position, it lends some plausibility to the view that she did not expect the visit of the appellant before a considerably later time. The appellant's evidence that in addition they arranged on the 6th for the marriage to take place on the 9th has great improbabilities in the other relevant circumstances, but I am prepared to assume a reasonable possibility that it is true.

The next question is with regard to the position in which the appellant found the deceased and Ludwick when he entered the kitchen just before the shooting. I have taken into consideration the presence of de Beer in the room adjoining the kitchen, the fact that the communicating door was ajar and also such inferences as may be drawn from the direction of the wounds, the place where blood was found and the position of Ludwick after he had been shot, and am not satisfied on these points that appellant's evidence is untrue; nor is it in itself so inherently improbable, bearing in mind the relations between the parties con-

cerned, as necessarily to call for rejection, while the evidence of Ludwick who was an untruthful witness and highly interested on this point, takes the matter very little further. But the question remains whether, giving the appellant the benefit of these considerations, the facts constituted such provocation as would so deprive an ordinary person of his self-control as to allow him to act as the appellant did. As against him it must be borne in mind that, according to his evidence, he already knew from his own observations that relations between the deceased, who was not his wife, and Ludwick were not those of casual acquaintance or platonic friendship, while the deceased had admitted a week before that she was having "an affair" with Ludwick. This evidence is that when he told her that he suspected her relations with Ludwick she laughed and said, "There is no reason why I should not have an affair with Eric. You have just had an affair."

In these circumstances the sight of what he says he saw in the kitchen could not have been such a shock as if he had had no inkling of their relations. I must not be understood to be expressing the view that, even if it had been such a surprise, it could in the circumstances have amounted to provocation to an ordinary person; on the facts on which I have said that there is a reasonable possibility that the defence evidence is true and on the assumption of the forthcoming marriage that I have made, the contention cannot be maintained. The appeal is therefore dismissed.

SCHREINER, J.A., and FAGAN, J.A. concurred.

NOTES AND NEWS : BERIGTE

Mr. Felix Machanik, Orthopaedic Surgeon of Johannesburg and Springs, has gone overseas for 3 months on a study tour of Great Britain and Europe, where he will be attending various orthopaedic clinics and hospitals. He will return to South Africa about the middle of August 1961.

FRANK FORMAN MEDICAL FOUNDATION

1962 AWARD

The Board of Trustees of the Frank Forman Medical Foundation announce that:

1. The sum of Seven Hundred Pounds will be available for post-graduate award in January 1962.

2. In terms of the Trust Deed, the Board of Trustees are directed to use their discretion in making the Award, in such manner as shall pro-

mote or assist the study of medicine and/or medical research at the University of Cape Town or elsewhere.

3. The Award may take the form of:

A *Scholarship* to a medical graduate for post-graduate medical study for 1 year; and/or

A *Fellowship* to a university graduate for post-graduate medical research for 1 year; and/or

A *Grant*, either independently or in conjunction with other research grants, to any person, institution, or body, for special medical investigation or research.

4. Applications must be addressed to:

The Secretary,

Frank Forman Medical Foundation,

3, Park Road,
Rondebosch, Cape Province.

They must reach him before 30 November 1961.

SENIOR RESEARCH OFFICER (CAPE TOWN)

CSIR CLINICAL NUTRITION RESEARCH UNIT

Applications are invited for the post of Senior Research Officer in the Clinical Nutrition Research Unit (a medical research unit), supported in the Department of Medicine of the University of Cape Town by the South African Council for Scientific and Industrial Research. The salary scale is £1,380 x 60—£1,740 x 60—£1,860 with promotion barrier at £1,740. Commencing salary will depend on qualifications and experience. The post is subject to the

conditions of service of the South African Council for Scientific and Industrial Research. The successful applicant will be expected to undertake research on ischaemic heart disease, preferably on those aspects concerning lipid metabolism.

For information about the scope of the work applicants are requested to write for a memorandum to the Secretary, Department of Medicine, Medical School, Observatory, Cape Town.

Applications should be submitted, with copies of 3 recent testimonials, to the Secretary, Department of Medicine, Medical School, Observatory, Cape Town.

SANDOZ FILM SERVICE

Sandoz Limited, Basle, Switzerland, announce that the following 16 mm. sound films are available upon request for showings to medical audiences.

Unless stated otherwise, the films are in colour. Many of them are of outstanding quality and have been awarded prizes at International Film Festivals.

Will interested persons please communicate with the Sandoz Pharmaceutical Department, P.O. Box 4461, Johannesburg, so that we can arrange for a representative to show whatever films are desired by medical groups.

The Active Management of the Third Stage of Labour

Dr. E. Leinzinger, Lecturer at the Women's Clinic of Graz University, Austria, in collaboration with the Pharmacological Laboratories of Sandoz Ltd., Basle.

Following a brief statistical survey of the main causes of maternal death, some of the methods practised in our pharmacological laboratories for testing the oxytocic action of Methergin® are demonstrated. In the clinical part filmed under the direction of Dr. Leinzinger at the Women's Clinic of Graz University, the technique of intravenous Methergin injections given on the crowning of the head or on the appearance of the shoulders is shown in cases of normal and of complicated birth. Dr. Leinzinger not only wishes to emphasize that Methergin greatly reduces the amount of postpartum haemorrhage but also that even complicated deliveries can be managed by the physician without further assistance than that of a midwife. The film is concluded by statistical data derived from many thousands of cases on the average reduction of blood loss and the shortening of the third stage of labour by the prophylactic administration of Methergin as described in the vast literature.

This film was given awards at the *Third Festival Internazionale del Film Medico-Scientifico* in Turin (1957) and at the *Festival International du Film Médico-Chirurgical* 1958 in Cannes.

Duration: 18 minutes.

Surgical Closure of an Interatrial Septal Defect

Prof. A. M. Dogliotti, **Prof. E. Ciocatto** and **Prof. A. Actis Dato** (Surgical Clinic of Turin University).

This film, shot in the Turin University Clinic, shows a rarely filmed operation: a septal defect is closed by the circumclulsion technique after inserting the index finger through an incision in the right auricular appendage to guide the needle. Prof. Dogliotti prefers the closed method to an operation on the bloodless heart using an extracorporeal circuit. However, only central defects of the atrial septum can be surgically treated in this way.

Before anaesthesia is induced an intravenous administration of a Hydergine® infusion is demonstrated

and the importance of its action on the circulation is commented upon (anaesthetist: Prof. E. Ciocatto). The film begins by showing a diagram of the most common variants of septal defects and their effects on the blood circulation.

This film was awarded a Grand Prix at the *Entretiens de Bichat*, 1958, in Paris.

Duration: 18 minutes.

Advances in Neurology

(First International Congress of Neurological Science, Brussels, 1957).

Shots taken at the First International Congress of Neurological Science (Brussels 1957) begin our series of topical films in which a new procedure has been followed. Each topic is introduced by a short interview with the speakers at the congress followed by a sequence filmed in their respective institutes demonstrating the subject of their papers.

The sequences contain:

1. EEG Investigations of Conditioned Reflexes (Prof. Gastaut, Marseille, and Dr. Grey Walter, Bristol).
2. Electromyographic Diagnosis (Dr. Isch, Strassburg, Dr. Desmedt, Brussels, and Dr. Paillard, Paris).
3. The Use of Hypothermia in the Management of Head Injuries (Prof. Bortrell, Canada, and Prof. Lazorthes, Toulouse).
4. The site of consciousness (Prof. Penfield, Canada, and Sir Geoffrey Jefferson, Manchester).
5. Prof. Olivecrona (Stockholm) and Prof. Krayenbühl (Zürich) give their views on the diagnosis of malformations of the brain. This is followed by an operation for the removal of a cortical arterio-venous aneurysm (performed by Prof. Krayenbühl in the Neurological Clinic of Zürich University).

Duration: 27 minutes.

Cine-Endoscopy

Bronchoscopy: **Dr. Dubois de Montreynaud** (Reims), **Dr. Boucher** (Lyon).

Oesophagoscopy: **Dr. Segal** and **Dr. Dubois de Montreynaud** (Reims), **Dr. Pette** (Paris).

Cystoscopy: **Dr. Jaupitre** (Paris).

Rectoscopy: **Prof. Debray** (Paris), **Dr. Segal** (Reims), **Dr. Pette** (Paris).

At the "Entretiens de Bichat" (Paris 1957) some greatly improved endoscopic films were shown which were shot using the new lighting device of Fourestier, Gladu and Vulmière. We have invited some French specialists to demonstrate the most interesting examples of this new technique. Thus we show bronchoscopic, oesophagoscopic, cystoscopic and rectoscopic findings which are most valuable for diagnosis and possess a

hitherto unknown perfection of colour. The film is of interest not only to gastroenterologists, thoracic surgeons and urologists but is also particularly suited for teaching purposes.

Duration: 26 minutes.

Painting and Psychiatry

Dr. N. de Silveira (Rio de Janeiro) and **Dr. P. Le Gallais** (Paris).

Using the paintings of a Brazilian schizoid, the authors demonstrate that creative activity as an occupational therapy may constitute a means for the patient to find contact with the outside world again. The choice of paintings shown in this film allows us to distinguish clearly several steps in the patient's path towards remission. They lead from chaos to geometrical abstraction, from there to the surrounding of the objects by frames and to their free representation in space. He is seized by a violent determination when he discovers the base line and proceeds to paint his first pictures of floors. Once again he is able to grasp the structure of space and arrange objects correctly in it. The patient has thus arrived at the state of remission.

These paintings were shown in an exhibition at the Second International Congress of Psychiatry (Zürich 1957).

Duration: 9 minutes.

X-Ray Cinematography: A Modern Technique of Diagnostic Radiology

Dr. E. Chérigüé

(Laboratoires de Radio-Cinématographie de l'Hôpital Claude Bernard, Paris).

Assisted by **Dr. C. Tavernier** and **Dr. J. Pradel**.

The development of the electronic amplifier has considerably simplified X-ray cinematography. It is now possible to examine thoroughly and repeatedly every detail of the movements and outline of organs, especially the digestive tract, yet involving only a minimum X-ray dose. In order to derive the utmost value from the film it is particularly convenient if the projector possesses a device for very slow speed and rapid acceleration and if the film can be stopped at individual frames. The advantage of this technique is clearly demonstrated by a case of early carcinoma of the oesophagus which had escaped detection during X-ray examination and endoscopy. This lesion was easily diagnosed by examining a sequence of the film frame by frame.

Differential diagnosis between neoplasm and spasm of the cardia is considerably facilitated by the administration of a spasmolytic (Bellafoline®). The development of diverticula can also be well observed by means of X-ray cinematography. The cinematographic technique is to be recommended particularly in the examination of infants as a considerably smaller exposure to X-rays is involved.

Black and white.

Duration: 15 minutes.

The Iron Cycle as revealed by the Electron Microscope

Dr. M. Bessis (Centre National de Transfusion Sanguine, Paris).

Electron-microscopic examinations reveal the presence of ferritin molecules in the phagocytic cells (monocytes)—resulting from the digestion of erythrocytes—and in the erythroblasts. These molecules are seen as characteristic groupings of four granules—

the iron-containing parts of the ferritin molecule. The molecules measure about 50 Angström units in diameter and were identified by chemical analysis.

These examinations add to our knowledge of iron metabolism in the body. They reveal interesting details of the pathology of iron deficiency anaemia in which there are generally few granules to be found in the red blood cells. In certain forms of anaemia (primary erythroblastic anaemia), in spite of the lack of haemoglobin, ferritin granules are, however, seen in the cytoplasm. This disturbance is not caused by iron deficiency but must be ascribed to the inability of the cells to produce haemoglobin from it.

Duration: 16 minutes.

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ORAL DIURETICS IN CLINICAL MEDICINE

A NEW MEDICAL FILM

The arrival of a new Squibb medical film, *Oral Diuretics in Clinical Medicine*, is announced by Squibb Laboratories (Pty.) Limited of Electron Avenue, Isando, Transvaal.

For the practising physician, the problem of oedema—whether of renal, cardiac, or hepatic origin—is one which he constantly meets. For years the search has continued for the ideal diuretic agent, one with a low capacity for electrolyte upheaval and a sustained action, a drug free from allergic or toxic reactions in usual dosages.

This film begins with a brief, diagrammatic review of normal renal physiology, delineating the 3 compartments (cells, vascular system and extracellular spaces) in which body fluid is proportionately contained. Sodium is stressed as being the critical water-retaining ion in preserving the correct proportions of protein, organic acids and electrolytes for maintaining homeostasis. When renal dysfunction occurs, retention, or increased reabsorption of water and sodium results in oedema, which is thus the common denominator of a variety of diseases.

Different approaches to the treatment of oedema are discussed. Reduction of sodium intake is one method. However, more successful therapy involves the elimination of sodium and water. The various diuretic agents, their advantages, disadvantages and modes of action are described. Although the parenteral organic mercurials are powerful and consistently effective, with a long history of usefulness, recent years have seen the advent of oral diuretics which are effective and safe as well as being easy to administer.

The benzothiadiazines, termed 'natriuretic agents' because they increase primarily the excretion of sodium and water, have been found to be the most potent and dependable of these. They act directly on the renal tubules to depress sodium and water reabsorption.

The last part of the film introduces reports and case histories to indicate the effectiveness, safety and convenience of one of the benzothiadiazine compounds in various conditions involving oedema—also its usefulness in the treatment of hypertension.

Application for loan of this 16 mm. colour, sound film should be made to Squibb Laboratories (Pty.) Ltd., P.O. Box 48, Isando, Transvaal. Telephone: 975-4614.

NEW, 10TH EDITION OF THE MERCK MANUAL

A revised, expanded and updated tenth edition of the *Merck Manual* in English will be published in June of this year by the Merck Sharp & Dohme Research Laboratories Division of Merck & Co. Inc., of Rahway, New Jersey, as part of a programme to serve the medical and allied professions.

The 1,900 page, thumb-indexed book comprises 384 chapters on the diagnosis and treatment of diseases, categorized into 21 main sections each covering a specific field of practice.

The *Merck Manual*, first published 60 years ago as a service to the medical and allied professions, has gained world-wide reputation as a reference work providing physicians with well organized, up-to-date facts, facilitating accurate diagnoses and promoting effective treatment. Characterized as a doctor's bible, it has been termed a 'must' for every medical library and is actively used in medical schools and for post-graduate studies.

More than 100 authorities in various fields of medicine served as authors or consultants in preparing the new tenth edition of the *Merck Manual*.

Several hundred carefully selected prescriptions are included embodying the most updated advances in medicine. Along with 9 special therapy chapters they are conveniently grouped in one section and categorized according to clinical indications.

The tenth edition of the *Merck Manual* includes 20 new subjects, many original illustrations and numerous added Tables. Thus the tenth edition has kept pace with the progress in modern medicine.

The coverage of a wide variety of disorders such as disturbances in inorganic metabolism, dental and oral defects plus the malabsorption syndrome, group A streptococcal infections, toxoplasmosis, pulmonary granulomatosis, and genetic metabolic anomalies has been broadened while sections dealing with the care of normal newborns and preschool children; anti-histamine, thrombolytic, diuretic and psychopharmacologic therapy, the dermatitides; resuscitation methods; tubeless gastric analysis, rheumatoid arthritis tests, identification of tumor cells in body fluids, and the diagnostic use of radioisotopes, has been updated.

A special section of the *Manual* provides a 'how-to-do-it' on clinical procedures, nursing techniques, office laboratory and selected paediatric and immunization methods. In this section preoperative and postoperative routines, dietary exchanges and other feeding directions as well as practical reference tables are instantly available.

The tenth edition is printed in pocket-size on strong bible paper in the traditional dark blue, gold stamped durable binding.

The Regular Edition is priced at US \$7.50, while a De Luxe Edition is also available at US \$9.75 with gold-edged pages. Physicians and members of allied professions may order directly from the Publication Department, Merck & Co. Inc., Rahway, New Jersey, U.S.A.

CHEMOTHERAPY OF TUBERCULOSIS

Ethionamide is a new anti-tuberculous drug developed in France for the treatment of cases resistant to streptomycin, PAS and isoniazid.

Clarke and O'Hea (*British Medical Journal*, 1961, 1, 636) describe the treatment of patients with

gross pulmonary lesions and resistant tubercle bacilli treated with ethionamide in conjunction with cycloserine (an anti-tuberculous antibiotic). X-ray evidence demonstrated disappearance of or diminution in the size of lung cavities. The sputum diminished and tubercle bacilli disappeared in most cases.

When other antibiotics were used in place of cycloserine the results were less favourable.

A follow-up of the patients in the first series showed that most of them remained well and non-infective for 18 months.

The side effects to ethionamide, in some of the patients, were drowsiness and some ankle oedema. These, however, were minor in view of the effective results of treatment of the resistant cases.

A PORTABLE (TRANSISTOR) ELECTROCARDIOGRAPH

A portable electrocardiograph which weighs 9 lb. and is powered by its own self-contained accumulators (which can be recharged overnight) has now been produced in the United Kingdom. The set measures 9 inches x 4 inches x 4 inches and the record is made in the usual way so that the tracing can be seen as the test proceeds.

ARTIFICIAL CARDIAC PACEMAKER

Furman *et al.*, working at the Montefiori Hospital, New York, have developed a novel cardiac pacemaker.

A thin metal catheter is passed through the right jugular vein, the superior vena cava and the right auricle into the right ventricle. The catheter tip serves as a negative electrode, the positive electrode being a stainless steel wire in the skin of the chest. A pocket-operated battery provides the current to stimulate the heart.

Patients are on anticoagulants and heart-block has been treated by this method in 18 patients for periods up to one year. Periodic X-rays are done to check the position of the intra-cardiac catheter. The battery must, of course, be repeatedly checked and replaced.

RIBONULEIC ACID (RNA) AND ARTERIOSCLEROSIS

It has been established that RNA diminishes in the ageing cell. It is also known that this nucleic acid stimulates the growth of nerve tissues. These facts led Cameron and Solyom (McGill University, Montreal) to give RNA to a series of patients suffering from cerebral arteriosclerosis and senile dementia, with considerable memory impairment. Their observations are reported in *Geriatrics* (February 1961).

About 50% of the patients showed improvement in memory with diminished confusion and a return of the ability to recall names, telephone numbers, etc. The patients also became less irritable and aggressive.

The improvement was more marked in the arteriosclerotic than in the dementia group. Experiments are now being planned to use RNA in the elderly to prevent mental deterioration.

It has been established that the dose of RNA required to show improvement is at least 100 times the dose in the daily food intake.

PREPARATIONS AND APPLIANCES

SELVIGON SYRUP AND TABLETS

Formula: Each 3.5 ml. of **Selvigon** Syrup contains 20 mg. of 2-(2-Piperidino-Ethoxy)-Ethyl-L-Aza-Phenothiazine-10-carboxylate hydrochloride. Tablets are also available, each containing 20 mg. of the active ingredients.

Selvigon is a recently developed antitussive which suppresses cough by central inhibition of the cough centre. It has no known side effects and in particular it does not depress respiration even at high dosage levels; the drug is therefore safe to use in coughing accompanied by respiratory distress.

Selvigon is well absorbed when given orally, and it is presented as a pleasantly flavoured syrup. Tablets are also available.

The antitussive value of **Selvigon** has been amply confirmed by laboratory and clinical trials, and this, combined with its low toxicity and freedom from side effects, establishes it as a cough suppressant of great therapeutic value.

Indications: Coughing associated with acute and chronic diseases of the respiratory tract.

Contra-indications and side effects: None.

Dosage: Children: Up to 1 year of age:— 1-5 mg. (3-15 drops of syrup) three times a day.

1-12 years of age: Up to 10 mg. (half a teaspoonful of syrup) three times a day.

Over 12 years of age: Up to 20 mg. (one teaspoonful of syrup or one tablet) three times a day.

Adults: 2 teaspoons of syrup or 2 tablets (40 mg.) three times a day. Half this dose is often adequate. A fourth dose may be taken at bedtime.

Presentation: Syrup in bottles of 3 fluid ounces. Tablets in containers of 30.

Further information can be obtained from: SKF Laboratories (Pty.) Limited, P.O. Box 38, Isando, Transvaal.

TRYPTANOL

Following on an intensive programme of research in mental health, Merck Sharp & Dohme announce the discovery and development of **Tryptanol**. This drug represents a significant advance in the treatment of depression and especially depression accompanied by anxiety.

Tryptanol (amitriptyline hydrochloride) is chemically designated as 5-(3-dimethylaminopropylidene)-dibenzo [a,d] 1, 4-cycloheptadiene hydrochloride.

The effect of **Tryptanol** is particularly noticeable when anxiety and agitation have emerged as the dominant symptoms in a depressed patient.

It has been asserted that:

'Central nervous system stimulants and anti-depressants, if given to anxious patients, will increase the anxiety...¹ **Tryptanol**, on the contrary, when used in this type of patient... acted both as a tranquilizer and as an antidepressant.'²

Also, unlike other potent psycho-pharmaceutical agents, **Tryptanol** achieves its wide range of therapeutic goals with a remarkable degree of safety. It has not been observed to produce parkinsonism, dystonia, agranulocytosis or jaundice. Moreover, none of the highly undesirable and sometimes bizarre side effects seen with the phenothiazines, reserpine, barbiturates and meprobamate may be expected to occur with **Tryptanol**, since it differs from these agents both chemically and pharmacodynamically. In

comparison with imipramine, **Tryptanol** '... appears to have a greater therapeutic activity', and since 'generally the side effects are less severe with **Tryptanol**... more patients can tolerate this drug'.³

The parenteral form of **Tryptanol** has been useful in the prompt control of anxiety, and in many instances has obviated or reduced the need for electroshock therapy.

Tryptanol is supplied in 2 forms: as tablets, each containing 10 or 25 mg. of amitriptyline hydrochloride; and as an injection for intramuscular or intravenous use. Each c.c. contains 10 mg. of amitriptyline hydrochloride.

REFERENCES

1. Perloff, M.M., and Levick, L. J.: Clinical Med. 7:2237, Nov. 1960.
2. Freed, H.: On the Parenteral Use of Amitriptyline (**Tryptanol**), Amer. J. Psychiat. 117:455 Nov. 1960.
3. Ayd, F. J., Jr.: Amitriptyline (**Tryptanol**), Therapy for Depressive Reactions, Psychosomatics, 1:320, Nov.-Dec. 1960.

Medical Literature available on request from: MSD (Pty.) Ltd., P.O. Box 7748, Johannesburg.

BETNELAN

A NEW ANTI-INFLAMMATORY STEROID

Betnelan (betamethasone) is a new systemic steroid developed by Glaxo. It has increased anti-inflammatory activity, diminished tendency to produce side effects, is devoid of salt-retention activity, has negligible effect on potassium balance, causes no mental depression and shows promise of clinical superiority in other respects. Also, dose for dose, **Betnelan** costs less than any other steroid.

Principal Indications: Short-Term Therapy. Acute asthma and hay fever.

Severe eczema and other inflammatory skin diseases.

Urticaria and other manifestations of allergy.

Shock.

Long-Term Therapy. Rheumatoid arthritis; Congestive heart failure; Nephrotic syndrome; Severe ulcerative colitis; Collagen diseases.

Packs: Tablets of 0.5 mg. betamethasone, packs of 30, 100, 500.

Further Information from:

Glaxo-Allenburys (S.A.) (Pty.) Ltd., Manchester Road, Wadeville, Transvaal and 121 Congella Road, Durban, Natal.

PERIACIN

The role of serotonin in the etiology of many allergies is now recognized as significant. Injection of serotonin causes bronchial contraction, capillary dilation with increased permeability leading to local edema and flushing of the skin with burning and itching.



Merck Sharp & Dohme Research Laboratories have done extensive experimental work on the concept that serotonin as well as histamine, may be responsible for some manifestations of the allergic state.

Periactin combines antihistaminic and antiserotonin properties. **Periactin** is highly potent in both phases of its antiallergic activity, being comparable to the most active antihistaminic and antiserotonin substances known. Its concentration in the skin following oral dosage appears to be superior to that of other antihistamines. Moreover, in animal studies it has equalled or surpassed the antiserotonin effects of lysergic acid diethylamide (LSD), 1-benzyl-2-methyl-5-methoxytryptamine (BAS), and 1-benzyl-2-methyl-5-hydroxytryptamine (BMS).

Periactin is well tolerated and has an unusually wide range of activity in the treatment of acute and chronic allergies, and is recommended in such conditions as:

- Hay fever and other seasonal rhinitis;
- Perennial allergic (vasomotor) rhinitis;
- Urticaria;
- Angioneurotic edema (Quincke's disease);
- Atopic dermatitis, such as eczema (eczematoid dermatitis and both localized and disseminated neurodermatitis);
- Drug and serum reactions;
- Contact dermatitis (including dermatitis venecata, e.g. due to plants);
- Neurotic excoriations;
- Insect bites and stings;
- Sunburn;

Pruritus, even when not necessarily associated with allergic phenomena.

Side Effects. Drowsiness has been observed to occur in some patients. This side effect is often desirable in patients with dermatitis and pruritus, since it tends to raise the threshold of perception and may decrease emotional tension and the tendency to scratch, caused by the disease.

Some dizziness, nausea and dry mouth have been reported in low incidence.

Patients who become drowsy on **Periactin** should be cautioned against driving a car or operating machinery or appliances requiring alert attention.

Dosage. Dosage must be individualized. The therapeutic range is 4 to 20 mg. a day, with the majority of patients requiring 12 to 16 mg. a day. An occasional patient may require as much as 32 mg. a day for adequate relief. It is suggested that dosage be initiated with 4 mg. 3 or 4 times a day and adjusted according to the weight and response of the patient.

Paediatric Dosage. The dosage for children between the ages of 2 and 14 years is 6 to 16 mg. a day, depending upon the weight and response of the patient. The initial dosage is usually 2 mg. 3 or 4 times a day.

Since the effect of a single dose usually lasts 4-6 hours, the daily requirements should be given in divided doses 3 or 4 times a day or as often as necessary to provide continuous relief.

Medical Literature available on request from:
MSD (Pty) Ltd., P.O. Box 7748, Johannesburg.

REVIEWS OF BOOKS

DIAGNOSTIC RADIOLOGY: MODERN TRENDS

Modern Trends in Diagnostic Radiology. By J. W. McLaren, M.A., M.R.C.P., F.R.R., D.M.R.E. (1960. Pp. 274 + Index. With 209 Figs. R8.45 + 17½c. delivery charge). London: Butterworth & Co. (Publishers) Ltd.

CONTENTS

1. Radiological Apparatus (A. J. Minns and G. R. Woodall).
2. Protection in the Diagnostic X-ray Department (S. B. Osborn).
3. Radiology in Research (G. M. Ardran).
4. The Changing Pattern of Chest Disease (Thomas Lodge).
5. Evaluation of Cardiac Function by Angiocardiology and Cineradiography (Carl Wegelius and John Lind).
6. Radiology of the Biliary Tract (Eric Samuel).
7. The Oesophagus (J. W. Pierce).
8. Examination of the Small Bowel (W. G. Scott Harden).
9. Cine Radiography of the Urinary Tract (David Edwards).
10. Pelvic Phlebography and Cavography (Ake Lindbom).
11. Hypertension of Renal Origin (C. J. Hodson).
12. Soft Tissue Radiography (J. W. McLaren).
13. Rare Diseases of Bone (F. Campbell Golding).
14. Cerebral Angiography (Arne Engset).
15. Paediatric Radiology (Frederic N. Silverman).

16. The Present Position of Radiology in Obstetrics (E. Roban Williams).
17. Percutaneous Selective Renal Arteriography (Per Odman).
18. Percutaneous Spleno-Portography (J. Frimann-Dahl).
19. General Indications for Peripheral Angiography (F. B. Cockett).
20. Lymphangiography (J. W. McLaren and J. B. Kinmonth).
21. Dental Radiology (A. C. W. Hutchinson).
22. Radiological Contrast Media (Ronald G. Grainger).

This beautifully produced book admirably fills the gap between editions of text-books, and it covers the field of advances in radiology since the last series. The radiographs are reproduced perfectly and the print is clear and legible.

Reference to the Table of Contents will give a good idea of the comprehensive field that is covered. Some of the chapters appear a little short, but they are models of comprehensiveness and conciseness. The subject matter varies somewhat in quality from chapter to chapter, but the general standard is high and an enormous amount of information has been made available here. Each section has been written by an expert in his field.

Possibly some criticism might be levelled at wall-mounted X-ray tubes, and the short section on stereotaxic surgery might be worthy of expansion. However, these are minor criticisms of a book that well fulfills its Editor's difficult aim, and it is most highly recommended to all who are interested in radiology.

THE SCIENTIFIC BASIS OF MEDICINE

Lectures on the Scientific Basis of Medicine (Volume 8, 1958-1959). British Postgraduate Medical Federation, University of London. (1960. Pp. 459 + Index. With Illustrations. 45s. net).

London: The Athlone Press.

This volume follows in the tradition of its predecessors. There is a variety of subjects and the book certainly serves the useful purpose of perpetuating some very good lectures. At a course of lectures the student can, of course, choose those which may be useful to him. The same applies to the book, but the subject matter here is heterogeneous and the reader may find some difficulty in selecting lectures of interest to him, as the titles may be very misleading. An example of this is *The Measurement of Adrenal Activity in Man*, by C. L. Cope, in which the clinician may find himself bogged down in a mass of technical detail on chromatography and other chemical details, although some clinical facts emerge.

On the other hand, *The Significance of Hypertensive Encephalopathy*, by F. B. Byrom, is too basic for the expert on hypertension and probably too advanced for the academician. Nevertheless it is a beautiful example of logical reasoning and clarifies many aspects of the subject.

The lecture on *Pulmonary Hypertension*, by C. V. Harrison, is a simple concise account of this difficult subject.

Chronic Bronchitis and Hypersecretion of Mucus, by Lynne Reid, delves into the basic aetiology of chronic bronchitis and is of great interest, but leaves numerous problems unsolved.

C. H. Stuart-Harris on the *Adenoviruses and Respiratory Disease of Man* reviews the knowledge on some respiratory catarrhs.

Numerous other lectures, such as that of M. Maizels on *The Role of Biochemistry in Medicine* and J. M. Walshe on *Biochemical Studies in Hepatic Coma* give food for thought.

There are lectures on *Intersexuality*, *Radiation as a Toxic Agent*, *Electron Microscopy and the Living Cell*, and *What are Gamma Globulins*. While not all are of clinical importance, they are all of considerable interest.

On the whole this book can be recommended to anyone interested in the wider field of medicine.

EAR, NOSE AND THROAT DISEASES

Die Hals-Nasen-Obenkrankheiten im Kindesalter. By Dr. P. Biesalski. (1960. Pp. 342. With 118 Figs. DM 9).

Stuttgart: Georg Thieme Verlag.

The frequent occurrence of ear, nose and throat diseases during childhood is well known. Therefore a book which specially deals with this part of otolaryngology is always welcome. The author is qualified in paediatrics as well as otolaryngology and his views and experience are therefore very interesting. The book is well written but, due to the fact that it is published in German, the number of readers in this country will unfortunately be restricted.

The systematic descriptions of ear, nose and throat diseases are fairly comprehensive but many details, such as operating techniques, are omitted as they appear in the standard textbooks. However,

the author pays detailed attention to important items, such as the indications for tonsillectomy, the relation between poliomyelitis and tonsillectomy, acute laryngo-tracheo-bronchitis, and upper respiratory tract allergy. One does not find new ideas on these topics, but the various views and the problems of each malady are described in full detail. Valuable practical hints appear frequently and add to the value of this book.

The methods of treatment discussed include the latest chemotherapy, steroid therapy and the use of antibiotics. In this way it differs from the standard textbooks, which often do not contain the latest therapeutic measures.

Speech and voice pathologies are dealt with in a special chapter written by the well-known Professor Luchsinger of Zürich. There are also special chapters dealing with the application and value of physical and climate therapy, infectious diseases, medical therapy as well as a separate chapter with differential diagnostic tables.

This work can definitely be recommended to otolaryngologists, paediatricians and interested general practitioners.

CHEMOTHERAPY IN EMOTIONAL DISORDERS

Chemotherapy in Emotional Disorders. By Frederic F. Flach, M.D., F.A.P.A. and Peter F. Regan, III, M.D., F.A.P.A. (1961. Pp. 295 + Index. \$10.00).

New York: McGraw-Hill Book Company, Inc.

In this up-to-date, informative and most readable book, the authors make a plea for treating each psychiatric patient according to his specific needs. This involves being willing to employ, if necessary, any of the known methods of therapy, rather than adopting a purely psychotherapeutic or a purely psychopharmacologic approach. They set out clearly a basis for integrating somatic treatment with psychotherapy in the management of psychiatric patients.

In the first section of the book the principles and techniques of evaluating the patients are discussed. Although the use of some of the tranquillizers or anti-depressant drugs may be hazardous in the masking of symptoms, if the principles mentioned are clearly understood and accurately applied, this pitfall is easily avoided.

The authors discuss the entire field of physical treatment within a practical psychotherapeutic framework. Specific information on many of the newer drugs (with details about methods of administration, indications and contraindications) is set out in chapters dealing with each group of psychopharmacologic agents.

In a chapter dealing with the integration of treatment methods, the importance of selecting the most suitable type of somatic therapy is stressed. This decision depends on the pathological emotions and the dynamic setting of the illness, in particular the patient's age and health. The authors consider that the most effective therapeutic agents for the reduction of pathological anxiety are still the barbiturates and meprobamate. For pathological hostility, directly experienced and manifested, the phenothiazine compounds seem to be most effective in reducing these emotions.

As psychodynamic factors are of primary importance in the genesis of psychoneurotic actions, psychotherapy is the fundamental method of treat-

ment. Somatic methods of treatment, however, may be valuable as adjunctive measures. The authors have described clearly and concisely their reasons for coming to this conclusion. Those concerned with the treatment of the emotionally disturbed will find this book most informative, and a mine of well-systematized information about the psychotropic drugs and the most effective ways of using them.

CONTEMPORARY PSYCHIATRY

A Synopsis of Contemporary Psychiatry. By George A. Ulett, B.A., M.S., Ph.D., M.D. and D. Wells Goodrich, M.D. (1960. Pp. 297 + Index. R 5.52).
St. Louis: The C. V. Mosby Company. Obtainable from local Booksellers.

The second edition of this useful, concise, pocket-sized book has been thoroughly revised and brought up to date to include the new psychotropic drugs. The attempted eclecticism of the original edition has been repeated.

This handbook fulfils well the need for a brief introductory up-to-date handbook for medical students, interns, nurses and psychologists. The general practitioner should find it most helpful with its detailed information on the newer psychopharmacologic treatments.

Adequate suggestions for further reading are set out at the end of each chapter, making it possible to obtain easily further information on any desired topic.

TUBERCULOSIS

Expert Committee on Tuberculosis: Seventh Report. World Health Organization: Technical Report Series, 1960, No. 195, 19 pages. 1s. 9d.
Pretoria: Van Schaik's Bookstore (Pty.) Ltd., P.O. Box 724.

Although other factors—particularly the rise in living standards—have contributed to tuberculosis control, specific control methods are still very important and have in fact become increasingly effective. Control in the past was exercised chiefly through care of the individual patient, especially in hospitals and sanatoria; to-day it can be extended to whole communities. The progress achieved in the last 10 years and the introduction of effective anti-tuberculosis drugs have also made it possible to extend control to countries that were previously unable to adopt effective measures against the disease.

A WHO Expert Committee on Tuberculosis met in Geneva in September 1959 to review recent developments in the field of tuberculosis and, in their light, the WHO control programme. Its *Report* discusses the value of prevalence surveys in measuring the extent of the problem of tuberculosis, and factors influencing the epidemiological behaviour of the disease. In a consideration of methods of examination for pulmonary tuberculosis, it assesses the relative value of tuberculin testing (particularly the Mantoux test), radiophotography and bacteriological investigation of the sputum; and it examines preventive measures, among them BCG vaccination and chemoprophylaxis, stressing that traditional preventive measures such as isolation have not lost their importance. It expresses the opinion that in countries of limited resources, where the problem of tuberculosis is considerable, the resources available should be used initially for the domiciliary treatment of patients with antituberculosis drugs rather than on hospital construction.

Other subjects discussed in the *Report* are case-finding by static clinics and mobile units, the organization of a tuberculosis programme, and the functions of WHO in the world campaign against the disease.

MENTAL HEALTH PROMOTION

The Undergraduate Teaching of Psychiatry and Mental Health Promotion: Ninth Report of the Expert Committee on Mental Health. World Health Organization: Technical Report Series, 1961, No. 208; 36 pages. 7½c.

Pretoria: Van Schaik's Bookstore (Pty.) Ltd., P.O. Box 724.

There is a widespread feeling at present that the medical curriculum needs reform, not only so as to lighten the sheer burden of knowledge that the student must bear, but also to counteract the increasing specialization of medicine and enable the student to realize that in his future work he will be dealing with individuals, not with cases coming under one or the other speciality. In such a reform psychiatry, it is held, will play an important part, since the psychiatric approach to the sick is always to the whole person.

Recognizing the value of psychiatry and mental health promotion in the future medical practitioner's management of patients with both psychiatric and somatic disease, a WHO Expert Committee on Mental Health sets out in this report a detailed programme for the teaching of these subjects in the medical curriculum. The topics discussed in the report include the teaching of neurology and the biological sciences in relation to psychiatry, the teaching of medical psychology and sociology, factors influencing the content and methods of teaching, the specific items to be covered in the field of psychiatry and mental health promotion, the methods of teaching these two subjects, the place they should occupy in the curriculum, and the staff requirements entailed by the introduction of the programme advocated.

INTRA-ABDOMINAL CRISES

Intra-Abdominal Crises. By Kenneth D. Keele, M.D., F.R.C.P. and Norman M. Matheson, F.R.C.S., M.R.C.P., F.A.C.S. (1961. Pp. 379 + Index. With 68 Figs. R.5.00. Postage 20c.).
London and Durban: Butterworth and Co. (Publishers) Limited.

The problem of acute abdominal pain associated with vomiting is a cause for anxiety both to the attending practitioner as well as to the consultant. This problem can in most instances be reduced to a minimum if an accurate history is obtained. The authors stress this fact in the first chapter of the book, and it applies most pertinently to the teachers of medical students to instil into them that the history is as important to the undergraduate as the 3 R's are to the young child commencing school. As Moynihan has oft repeated, an accurate, clear and concise history will help to arrive at the correct diagnosis, and on this revolves the whole question of treatment. This factor is of such paramount importance that the authors have given the problem very careful consideration. They state that early diagnosis is so vital in a patient presenting abdominal symptoms that it can only be achieved by an accurate history and interpretation of succeeding events.

To assist the reader the authors have divided the book into 2 parts. *Part 1* deals precisely and accurately with the presenting symptoms and abdominal pain, and the interpretation of the pain and symptoms as well as the correct method of thorough examination and searching for the cause. *Part 2* deals with the specific local abdominal disease.

Every medical student commencing his clinical years would benefit greatly by thoroughly reading and understanding *Part 1*, for from these chapters he can obtain the fundamental basic principles of the examination of a patient presenting as an acute intra-abdominal problem and be able to interpret the signs elicited. *Part 2* will then help him to consolidate his findings to specific intra-abdominal conditions.

The *Appendix* is extremely useful in that the authors show how biological investigations are an adjunct to help in arriving at the diagnosis, and not as a means of making a diagnosis.

Intra-Abdominal Crises is a book of inestimable value to the student, practitioner and consultant alike. To those occupied with the teaching of basic principles of medicine and surgery it is of great aid.

RESUSCITATION

Resuscitation of the Newborn Infant. Ed. by Dr. Harold Abramson. (1960. Pp. 274 + Index. Seventeen Chapters with 36 Figs. R 8.50).

St. Louis: The C. V. Mosby Company. Obtainable from local booksellers.

Old ideas die hard. This book is recommended to the 'older' practising anaesthetists, paediatricians, obstetricians and practitioners concerned with the handling and resuscitation of the newborn infant as well as to those of the more modern school.

In the resuscitation of the newborn the phrase 'artful inactivity' is still frequently heard and as the author so aptly writes: 'This may result in an artless death.' Lack of sufficient knowledge in this important field can no longer be justified by artless inactivity. This book very effectively dispels the old-fashioned ideas in resuscitative methods which by now should have been relegated to the limbo of forgotten things, but which unfortunately are still handed down unquestioned from textbook to textbook and from lecturer to student.

The book is, as the title suggests, a symposium edited by Harold Abramson, with contributions by such outstanding workers as Virginia Apgar, Edwin Gold, Stanley James and others too numerous to mention.

In the *Preface*, however, the Editor states that, in order to achieve continuity of discussion, no designations have been made of the authorship of the individual chapters; only a list of the contributors is given in alphabetical order.

The style is lucid and precise and the book is generously illustrated. The list of references at the end of each chapter is exhaustive and completely up to date, and the volume ends with a thought-provoking chapter on *The Search for New and Precise Knowledge*.

A useful glossary of terms employed further adds to the readers' understanding and enjoyment.

An otherwise excellent book is unfortunately marred by a number of avoidable spelling mistakes which, in one particular instance, gives quite a wrong meaning to a sentence, viz. 'simulate' instead of 'stimulate' (p. 172).

This book is a 'must.'

AMERICAN ORTHOPAEDIC INSTRUCTION

Instructional Course Lectures: The American Academy of Orthopedic Surgeons, Vol. 17. Ed. by Fred C. Reynolds, M.D. (1960. Pp. 406 + Index. With 358 Figs. R15.75).

St. Louis: The C. V. Mosby Company. Obtainable from local booksellers.

This volume is a selection of some of the courses presented at the 1960 Instructional Course Program of the American Academy of Orthopedic Surgeons.

The Courses deal with fractures, bone graft surgery, children's orthopaedics, surgical approaches to the cervical spine, disability evaluation and athletic injuries.

The volume comprises 8 articles and 4 Symposia. The Symposia cover the following subjects:

1. Fractures of the femoral neck (5 lectures);
2. Bone graft surgery (4 lectures);
3. Disability evaluation (4 lectures);
4. Athletic injuries (5 lectures).

Because of the very nature of the lectures and the time limitation imposed, the articles are in many instances incomplete, although all are of a high standard.

Courses on *The Diagnosis of Arterial Injury in the Extremities* and on *Surgical Management of Vascular Injuries Associated with Long Bone Fracture* are included in the section on fractures.

The section on children's orthopaedics contains a contribution on *Skeletal Age and the Control of Bone Growth* by W. T. Green and M. Anderson, and one on *Unequal Leg Length* by W. P. Blount. This section is well presented and contains a great deal of authoritative information.

There is also an excellent article on *The Surgical Approaches to the Cervical Spine*.

Despite the fact that Figs. 214 and 215 have been transposed, the volume is well produced.

Not every orthopaedic practitioner will agree with all that is written in this book; it deserves, nevertheless, a very necessary place in the library of every orthopaedic surgeon.

MEDICAL LEGISLATION IN SOUTH AFRICA

Medical and Health Legislation in the Union of South Africa. By E. H. Cluver, K.St.J., E.D., M.A., M.D., B.Ch. (Oxon.), D.P.H. (Lond.), F.R.S.H. (1960. Pp. 805 + Index. R 9.75).

Johannesburg: Central News Agency Ltd.

This new edition of Professor Cluver's well-known reference work on medical and health legislation brings up to date in an easily available form for medical practitioners such legislation as may concern them.

The scope of the volume exceeds conventional public health legislation. The inclusion of the *Inquests Act* and the *Post-Mortem Examination and Removal of Human Tissues Act* is a valuable portion of the book in view of the extensive way in which these Acts affect the practice of district surgeons, whether part-time or full-time.

The volume should make a very wide appeal far beyond the scope of the medical profession, because the Nursing Act and its Regulations, the Pharmacy Board Rules, as well as the details of the Therapeutic Substances Regulations, are all included. A useful Index makes it easy for the reader to find the legislation with which he may be concerned.

The new edition is virtually encyclopaedic in the extent to which it covers medical legislation in South Africa.

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